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April 11, 2012

Jocelyn Boyd Chief Clerk and Administrator Public Service Commission of South Carolina 101 Executive Center Dr., Suite 100 Columbia, SC 29210

Re: Docket No. 2012-\_\_\_\_-E Appliance Recycle Program

Dear Ms. Boyd:

Duke Energy Carolinas, Inc. ("Duke Energy" or the "Company") hereby submits for approval a tariff, attached as Exhibit 1, covering a new residential energy efficiency program under Save-a-Watt, the Appliance Recycle Program. The program is designed to remove inefficient refrigerators and freezers from Duke Energy served homes. The appliances will be recycled allowing reuse of up to 95% percent of the appliance material and program participants will receive an incentive up to \$50 per appliance. This program offering is similar to the Appliance Recycling Program offered by Progress Energy Carolinas, Inc.

As with every new energy efficiency program Duke Energy proposes, the Company has evaluated the expected participation in the program and applied multiple cost-effectiveness analyses to the implementation of the program. The Company has attached as Exhibit 2 a document showing the expected participation given the \$30 incentive the Company will offer initially. (If the amount of the incentive does not appear to be attractive to customers, the Company may increase the incentive to \$50 in order to attract the number of expected participants.) Exhibit 3, also attached, is the benefit/cost ratio which supports implementation.

Please let me know if you have questions or comments about this matter.

Sincerely,

Timika Shafeek-Horton

Timeth Stayleck-Hartn

Electricity No. 4 South Carolina Original (Proposed) Leaf No. 160

### RESIDENTIAL APPLIANCE RECYCLING PROGRAM (SC)

#### **PURPOSE**

The purpose of this program is to remove and retire from service, operating refrigerators and freezers from residences in order to reduce electric energy usage and to provide environmental benefits through proper recycling.

## **AVAILABILITY**

This program is available to customers who own operating refrigerators and freezers used in individually-metered residences. The refrigerator or freezer must have a capacity of at least 10 cubic feet but not more than 30 cubic feet.

### **PROGRAM**

- Under this program, the Company's authorized agent will remove from the residence and recycle qualifying refrigerators or freezers.
- To qualify for payment under this program, the refrigerator or freezer must be electrically connected to the customer's residence, must be demonstrated to be cooling, be empty and readily accessible.
- The Company's authorized agent will arrange for pick-up of the refrigerator or freezer at which time the customer or his authorized representative, 18 years of age or older, must be present and authorized to sign a form transferring ownership of the appliance(s) to the Company's agent.

#### **PAYMENT**

Participating customers will be paid up to \$50 for each refrigerator or freezer removed from the residence; however, the customer shall not be paid for more than two appliances removed and recycled per year.

# Appliance Recycling Program Projected Participation

	Program Name	Appliance Recycling
1	Measure Life	8
2	Free Rider %	40%
3	Incremental Participants Year 1	1,577
4	Incremental Participants Year 2	4,163
5	Incremental Participants Year 3	4,769
6	Incremental Participants Year 4	4,769
7	Incremental Participants Year 5	4,769
8	Cumulative Participation Year 1	1,577
_	Cumulative Participation Year 2	5,740
	Cumulative Participation Year 3	10,509
	Cumulative Participation Year 4	15,278
-	Cumulative Participation Year 5	20,047
	Cumulative Summer Coincident kW w/ losses (net free) Year 1	296
	Cumulative Summer Coincident kW w/ losses (net free) Year 2	1,078
	Cumulative Summer Coincident kW w/ losses (net free) Year 3	1,973
	Cumulative Summer Coincident kW w/ losses (net free) Year 4	2,869
-	Cumulative Summer Coincident kW w/ losses (net free) Year 5	3,764
	Cumulative kWh w/ losses (net free) Year 1	1,596,587
	Cumulative kWh w/ losses (net free) Year 2	5,810,166
-	Cumulative kWh w/ losses (net free) Year 3	10,637,178
	Cumulative kWh w/ losses (net free) Year 4	15,464,190
	Cumulative kWh w/ losses (net free) Year 5	20,291,202
_	Per Participant Coincident Saved Winter kW w/losses	0.45
-	Per Participant Coincident Saved Summer kW w/losses	0.57
	Per Participant Annual kWh w/losses Year 1	3,099
_	Per Participant Annual kWh w/losses Year 2	3,099
	Per Participant Annual kWh w/losses Year 3	3,099
h	Per Participant Annual kWh w/losses Year 4	3,099
-	Per Participant Annual kWh w/losses Year 5	3,099
-	Cumulative Lost Revenue (Net Free Riders) Year 1	\$136,081
_	Cumulative Lost Revenue (Net Free Riders) Year 2	\$506,751
-	Cumulative Lost Revenue (Net Free Riders) Year 3	\$949,371
	Cumulative Lost Revenue (Net Free Riders) Year 4	\$1,412,341
	Cumulative Lost Revenue (Net Free Riders) Year 5	\$1,896,370
35		\$264
36		\$270
37	Lost Revenue per Participant Year 3	\$277
38	Lost Revenue per Participant Year 4  Lost Revenue per Participant Year 5	\$283
-	Total Avoided Costs/MW saved Year 1	\$290
$\rightarrow$	Total Avoided Costs/MW saved Year 2	\$113,258 \$447,435
	Total Avoided Costs/MW saved Year 3	\$117,135 \$121,451
-	Total Avoided Costs/MW saved Year 4	\$121,151
-	Total Avoided Costs/MW saved Year 5	\$123,877
_	Total Avoided Costs/MWh saved Year 1	\$126,664
	Total Avoided Costs/MWh saved Year 2	\$44
_	Total Avoided Costs/MWh saved Year 3	\$42
$\vdash$	Total Avoided Costs/MWh saved Year 4	\$39
$\vdash$	Total Avoided Costs/MWh saved Year 5	\$42
75	TOTAL / TOTAL COSTS/INTENT STATES   FOIL S	\$42

# **Appliance Recycling Program Cost Effectiveness Evaluation**

	V . E V	UCT	TRC	RIM	Participa
1	Avoided T&D Electric	\$1,377,730	\$1,377,730	\$1,377,730	
2	Cost-Based Avoided Production	\$4,688,029	\$4,688,029	\$4,688,029	-
3	Cost-Based Avoided Capacity	\$1,943,130	\$1,943,130	\$1,943,130	
4	Lost Revenue	\$0	\$0	\$0	\$10,31
5	Net Lost Revenue	\$0	\$0	\$8,057,995	
6	Administration Costs	\$251,814	\$251,814	\$251,814	
7	Implementation Costs	\$2,111,509	\$2,111,509	\$2,111,509	
8	Incentives	\$506,743	\$0	\$506,743	\$506
9	Other Utility Costs	\$220,219	\$220,219	\$220,219	
10	Participant Costs	\$0	\$0	\$0	
11	Total Benefits	\$8,008,889	\$8,008,889	\$8,008,889	\$10,820
12	Total Costs	\$3,090,284	\$2,583,541	\$11,148,279	
13	Benefit/Cost Ratios	2.59	3.10	0.72	

	Appliance Recycling (\$50 Incentive)								
		UCT	TRC	RIM	Participant				
.1	Avoided T&D Electric	\$1,377,730	\$1,377,730	\$1,377,730	\$0				
2	Cost-Based Avoided Production	\$4,688,029	\$4,688,029	\$4,688,029	\$0				
3	Cost-Based Avoided Capacity	\$1,943,130	\$1,943,130	\$1,943,130	\$0				
4	Lost Revenue	\$0	\$0	\$0	\$10,313,852				
5	Net Lost Revenue	\$0	\$0	\$8,057,995	\$0				
6	Administration Costs	\$251,814	\$251,814	\$251,814	\$0				
7	Implementation Costs	\$2,111,509	\$2,111,509	\$2,111,509	\$0				
8	Incentives	\$844,571	\$0	\$844,571	\$844,571				
9	Other Utility Costs	\$220,219	\$220,219	\$220,219	\$0				
10	Participant Costs	\$0	\$0	\$0	\$0				
11	Total Benefits	\$8,008,889	\$8,008,889		\$11,158,424				
12	Total Costs	\$3,428,112	\$2,583,541	\$11,486,107	\$0				
13	Benefit/Cost Ratios	2.34	3.10						